

REMARKS

Rejected claims 92-99, 105, 125 and 128 have been canceled merely to simplify the issues under examination.

Claims 81, 82, 86, 89-91, 100, 101, 103, 106-111, 122-124, 126, 127 and 129 have been rejected under 35 USC §103(a) as being unpatentable over Moss et al. '249 in view of Cox et al. '543. This rejection is respectfully traversed with respect to these claims as amended herein.

These claims now variously recite “a flexible body portion defining an outer surface that is substantially transparent to electromagnetic ablation energy”, and “shield disposed within a portion of the body portion for directionally controlling electromagnetic ablation energy emitted through the outer surface”, or “a flexible ablative element... capable of emitting electromagnetic ablative energy... disposed within said flexible body in spaced relation to said contact surface to prevent said ablative element from contacting the surface of the heart,” and “a shield disposed within said flexible body configured to direct electromagnetic ablative energy to the surface of the heart through said contact surface”, or “a flexible ablative element having a longitudinal axis and being capable of emitting electromagnetic ablative energy generally radially about said longitudinal axis, said flexible ablative element being slidably disposed within said lumen of said flexible body out of contact with the surface of the heart.”

In addition, the dependent claims are further limited, for example, by such specific recitations as “the shield at least partially reflects electromagnetic ablation energy emitted by the at least one ablation element toward the controlled direction of emission”, or “the ablation element includes a linear antenna”, or “the outer surface of the ablation assembly is adapted to be manipulated to one of a plurality of contact positions to generally conform the controlled emission direction portion of the outer surface to the biological tissue during tissue ablation”, or “ablation element is slidably disposed within a receiving passage of the flexible body portion”, or “at least the contact surface of the elongate flexible body is substantially transparent to the electromagnetic energy emitted by the ablative element”.

These aspects of the claimed invention are not disclosed or even suggested by the cited references considered either alone or in the combination proposed by the Examiner. Specifically, Moss et al. ‘249 is understood to anchor into the wall of a cardiac chamber an ablation element that emits an electric field, and only refers to a ‘shield’ as part of a coaxial supply cable to which one end of a helical antenna is connected. Applicants are unable to find in this reference any disclosure or suggestion of a shield for directing emitted electromagnetic ablation energy in a manner as now claimed herein.

Nor does Cox et al. '543 disclose or even suggest any electromagnetic structure for emitting tissue-ablating energy in a manner as claimed by Applicants. At best, this reference merely refers to cryoablation using cryoprobes of predetermined or fixed shapes that rely upon a "boiler chamber 75" and direct contact for thermal conduction (col. 12, lines 38-43), rather than upon antennae and radiative electromagnetic energy to achieve tissue ablation. There is thus no motivation or instruction found in these references for combining such disparate structures in a manner as proposed by the Examiner. The deficient disclosures, then, of these cited references thus fail to establish even a *prima facie* basis from which a proper determination of obviousness of the claimed structure can be made. It is therefore respectfully submitted that amended claims 81, 82, 86, 89-91, 100, 101, 103, 106-111, 122-124, 126, 127 and 129 are now patentably distinguishable over the cited art.

Claims 100, 101 have been rejected under 35 USC §103(a) as being unpatentable over Moss et al. '249, as modified by Cox et al. '543 as applied to claim 92 above, further in view of Lenihan et al. '382 or Langberg '438. (From the Examiner's references to claims 103, 105 and claims 106-110, and claim 111, and claims 122-123, and claims 124-129, Applicants infer that this rejection under 35 USC §103(a) in view of four references was intended also to incorporate these

additional listed claims, and the following Remarks accordingly also address the pending ones of such claims).

These claims which depend from claim 81 are further limited by specific recitations of “the ablation element includes a linear antenna”, or “an electromagnetically insulating element disposed generally coaxial with a longitudinal axis of the shield” (and additionally various configurations of “a handle and a shaft member operably attached between the body portion and a distal end of the handle” or “an elongate flexible body defining a contact surface along at least a portion of its length that is configurable to contact a surface of the heart”, or “a shield disposed within said flexible body configured to direct electromagnetic ablative energy to the surface”, or “a flexible ablative element having a longitudinal axis and being capable of emitting electromagnetic ablative energy generally radially about said longitudinal axis, said flexible ablative element being slidably disposed within said lumen of said flexible body out of contact with the surface of the heart”).

These aspects of the claimed invention are not shown or suggested by the deficient disclosures of Moss et al. or Cox et al., for reasons as discussed in the above Remarks with reference to claims 81 et seq. Nor do the helical antennae of Lenihan et al. or Langberg supplement the deficiencies of disclosure of Moss et al. or Cox et al. to suggest or describe the claimed invention. It is therefore

respectfully submitted that claims 100, 101 (and 103, 106-110, 111, 124, 126, 127 and 129) are now patentably distinguishable over the cited art.

Remaining claims 100, 101 have been rejected under the judicially-created doctrine of obviousness-type double patenting over the claims of U.S. Patent No. 6,312,427. This rejection is respectfully traversed with respect to these claims as amended herein.

These claims depend from claim 81 with recitations of structures distinctive from the limitations of the claims of the '427. Specifically, these dependent claims as amended herein now recite "a linear antenna", or "an electromagnetically insulating element disposed generally coaxial with the longitudinal axis of the shield." These dependent aspects of the claimed invention are now more specifically defined herein in distinction over subject matter defined by the claims of the '427 patent which are therefore respectfully submitted to provide insufficient bases for forming a proper determination of obviousness. A Terminal Disclaimer may be submitted if determined to be required in consideration of the above Remarks.

Favorable consideration and allowance of all remaining elected claims are solicited.

Respectfully submitted,
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